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ABSTRACT

This report provides an overview of the training and education received by public sector employees, estimates of public funds expended for this training, recent trends, and identification of policy issues for future study. Chapter 1, an introduction, summarizes the content of chapters 2 and 3. Chapter 2 describes the major portions of the public sector--federal civilian employees, uniformed members of the armed forces, independent agencies, and state and local government--and public sector training. It is reported that the public sector employs nearly 19 million people and that between 3 and 4 million public sector employees receive training and education each year at a cost of between 9 and 10 billion dollars. Chapter 3 summarizes the dimensions of public sector training. For each major portion of the public sector a preliminary analysis is presented based on available data, covering the data bases, costs, size, emphasis, trends, distribution, and issues of public sector training. Where possible, initial estimates are made on the objectives of the training and impacts on other educational institutions. These trends are indicated: state and local training is growing more rapidly than federal and military training and costs 6 billion dollars per year and will increase. (YLB)

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AN OVERVIEW OF TRAINING IN THE PUBLIC SECTOR

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ABSTRACT

The public sector employs nearly 19 million people at federal, state and local levels. This includes federal civilian employees, uniformed members of the armed forces (including the Coast Guard) and state and local government employees. The report provides: an overview of the training and education received by these employees, estimates of the public funds expended for this training, recent trends, and identification of policy issues for future study. Based on available data the report estimates between three and four million public sector employees receive training and education each year at a cost of between $9 and $10 billion dollars. Trends indicate the public sector training continues to grow in cost and participation, although there recently has been some participation decreases. State and local training is growing more rapidly than federal civilian employee training, apparently reflecting continuing growth in state and local employment, while federal civilian employment has peaked. Military training is significant, amounting to $6 billion per year and is estimated to grow further over the next few years. Questions and issues resulting from the analysis are proposed for future study by the National Institute of Education.

1. INTRODUCTION AND SUMMARY

1.1 INTRODUCTION

The National Institute of Education (NIE) is interested in developing a long-term agenda for research into training and education. The overall objective of this research is to clarify national policy issues and to understand how alternative policies would impact on, and influence both the public and private training sectors.

As a step toward the NIE objective, this paper will provide an initial overview of the training and education accomplished in the public sector. Therefore, this report provides:

- Describe public sector training
- Make initial estimates of its magnitude (how many people are trained, by whom, in what subjects, at what costs and the trends)
- Identify its broad objectives
- Raise additional questions and policy issues for future study.

To date there has been little, if any, aggregate analysis of these areas. This lack of information, therefore, severely limits development of a full range of policy alternatives and issues. After establishing the scope and nature of education and training sponsored by private and public sector employers, the NIE will be in a better position to address some of the policy issues pertaining to the national investment in education and training.

The questions addressed in this preliminary investigation include the following:

- What is the size of total annual expenditures on public sector training and education?
- What is the size of annual expenditures on public sector training and education outside of government educational institutions?
- What are the trends in these expenditures?
- What are the total numbers of people involved in public sector training (producers and recipients)?
- What is the distribution of employees trained (e.g., blue collar, clerical, professional and management)?
- What is the purpose of this training?
- What are the similarities or differences between federal training patterns and those of state and local governments?

1.2 SUMMARY

Approximately 19 million people are in the public sector at federal, state and local levels. This includes federal civilian employees, the uniformed members of the four military services in the Department of Defense and the Coast Guard, and state and local government employees.

Fairly comprehensive training data on most federal civilian employees (from the Office of Personnel Management) and members of the four military services (from the Department of Defense) is readily available. Less data is available on other federal employees (U.S. Postal Service, Tennessee Valley Authority, and Coast Guard Military), and very little data is available on over 12,000,000 state and local government employees. Therefore,

estimating the range of the number of participants and the range of total expenditures for public sector training and education became a first objective of this investigation.

Extrapolating from the data on federal civilian employees and on DOD military training, it is estimated that between three and four million persons receive government paid and/or sponsored training and education annually. This represents a range of approximately 16 to 21 percent of all public sector employees who receive individual, formal, classroom training and education each year.

Also based on OPM and DOD data, exceptionally large amounts of public funds (federal, state and local) are spent on this training, in the range of $9 and $10 billion each year. These total expenditure estimates include salaries of trainees, instructors and support personnel; operating and maintenance costs of the programs and facilities; tuition, fees, books, travel and per diem costs; overhead and administration costs; and investment and procurement costs.

1.2.1 Specific Findings

Overall, public sector training continues to grow, although perhaps less rapidly than in recent years and with decreases in some areas. Cost increases of federal civilian training exceed the rate of inflation (total costs increased 11.5 percent in FY 1975 dollars from FY 1975 to FY 1978). In addition, average costs per hour and per training occurrence also increased faster than inflation -- 18.6 percent and 25.0 percent in FY 1975 dollars over the same period. Federal civilian training instructors and support personnel have increased a total of 23.6 percent, from 8,574 to 10,599 individuals between FY 1975 and FY 1978. However, federal civilian training occurrences and DOD military training are down 6.5 percent and

13.0 percent respectively between FY 1975 and FY 1978. (DOD projects a new increase in training by FY 1980 of 7.5 percent from FY 1978.)

Simultaneously, training in the Postal Service, the Tennessee Valley Authority, the Coast Guard Military, and state and local governments is apparently increasing, some of it rapidly. For example, in California, costs have increased in real terms (27.3 percent), hours in training have increased (19 percent), while individuals receiving training have decreased (8 percent), over the one year period, 1976/1977 to 1977/1978. In the short term, recent budget pressures at federal, state and local governmental levels may be exerting a moderating influence on training growth while the long term trend is to provide more and better training to public sector employees at all levels.

Federal civilian employment and military strengths peaked in 1969, while state and local government employment has continued to rise, although lately the rate of growth has slowed. Contacts with the Postal Service, the TVA, states, and local governments indicate new sensitivities to employee training needs, especially in management areas. New centralized data bases are being implemented or studied in the TVA, the Coast Guard (military training), and in some states, e.g., California. Although there are some areas of declining training occurrences (federal civilian, and California employees), it seems clear that more emphasis is being placed on employee training, and that this trend will continue.

The objectives of public sector training is significantly different for the civilian and military sub-groups. Federal civilian training is intended to increase efficiency and effectiveness of operations by developing the skills, knowledge

and abilities of employees in the performance of official duties. Since federal personnel policies require new civilian employees to be qualified for the positions they are hired into, this training is intended to improve capabilities of persons already having a level of expertise and competence in their jobs.

Examination of federal civilian employee training shows that 67 percent of all training occurrences have the purpose of improving performance of employees in their current jobs. Additionally, 55 percent of all training occurrences is accomplished in speciality/technical areas. By contrast, the military, however, starts mostly with unskilled recruits and officer candidates and has the objective of providing the operational forces with personnel adequately trained to assume jobs in military units. The DOD, therefore, provides 95 percent of its military training to individuals acquiring new skills (principally incoming personnel), with a majority of this training also technically oriented (57 percent is specialized skill and flight training.)

Approximately 26 percent of all federal civilian employee training is obtained from non-government (private) sources. It is not known how much other government training (by other federal agencies, military and state and local governments) is contracted out to private companies and institutions. DOD does, however, contract out much training on new weapons systems as well as considerable management related training. State governments report that they use their state colleges and universities extensively for management training and make their programs available to local government employees.

Implementing regulations of the Federal Personnel Manual (Ref. 1), of the Government Employees Act of 1958 explicitly states that agencies may "...send its employees to

non-Government facilities for needed training which is not reasonably available within the Government...." Therefore, current Government policy encourages the development of "in-house" training capabilities. In addition, there are no instructions to require cost-effective analyses to determine whether such training would be less costly from private sector institutions. In fact, such analyses would today be impossible because of the inadequacies of the data.

In order to completely evaluate the impacts on other educational institutions of public sector training, additional analysis is required with disaggregate data. As noted above, substantial training and education already is being performed by private institutions. These include academia, industry and service firms (vendors).

1.2.2 Uncertainties

Data - The current data clearly hampers sophisticated analysis of public sector training. In the area of public sector personnel, there may still be government employees not identified. For instance, TVA reports 17,000 employees to OMB. This investigation turned up another 30,000 direct-hire trades and crafts employees in the TVA not covered by reporting procedures. This lack of reporting may exist elsewhere. There may also be government entities that have not been identified, who have public sector employees. For example, U.S. employees of international organizations to which the U.S. belongs and supports with funds; employees of quasi-government organizations or corporations which receive all or partial funding from governmental sources; and Comprehensive Employment and Training Act (CETA) trainees who are "temporarily" hired by local governments for the purpose of training and subsequently obtain permanent employment. (CETA training is not included in the OPM data base.)

Further, a larger sample of training at state and local government levels would provide greater insights into the size and scope of this training. California has recognized this need. Perhaps others have as well.

In the area of costs, better estimates of costs of training federal civilian employees would greatly aid in improving the estimates of total public sector training expenditures. This has been recognzied by the Government Accounting Office (GAO), which in a report dated August 1975 (Ref. 2), urged the Commission (now OPM) to "...define and achieve a consensus among the Executive departments and agencies on the elements that make up the total cost of training and then ensure that data on these elements is uniformly determined and collected." Although OPM has made progress in this area, more needs to be done, and not only within the Executive branch, as stated above.

Definition of Training and Education - Another area of uncertainty exists in the definition of training. Direct tuition assistance, funded correspondence courses, military unit training, and new training techniques should be examined as to their size, scope and impact. The U.S. Postal Service, for instance, as a means of minimizing costs as well as reaching widely dispersed employees, is putting a large effort into local, programmed and self-paced instructional materials. Formal, classroom programs may, in fact, be too narrow a definition for complete understanding of overall training in the public sector.

Further, there is no conscious attempt to differentiate between training and education. The OPM data base allows identification of adult basic education courses, which are a very small portion of all training (less than one percent). The DOD identified professional development courses, which also represent a very small amount of all training (less than five percent).

Where educational objectives are included as integral parts of certain training courses (such as providing basic reading and writing skills as an introductory part of skill training courses) data does not exist in the civilian or military data bases to gain insights into the type or scope of such objectives. Therefore, throughout this paper, attempts to differentiate between training and education will not be made, and all discussions and data will refer to training as inclusive of both training and education.

1.2.3 Questions

Throughout this investigation many impressions were gained, both from the data available and from discussions with personnel/training executives. The data by itself is not extensive or detailed enough at this time to verify these impressions. In addition, more analysis would be necessary, with disaggregated data, to provide complete insights into these areas. These impressions may have implications for national education policy, including areas where there may be employer provided education and training in substitution for public secondary school education. In order to provide visibility to these impressions, those considered most important are listed below in the terms of unanswered questions for further consideration:

Federal Civilian Training

- Is federal civilian training fully integrated into the agencies' overall program management structure?

  A continuing trend shows large increases in trainers (instructors, development specialists and support), while training occurrences have decreased since FY 1976. This raises the question as to whether overall policy supports increased training, but that funds for trainers and trainees may be separately programmed. Therefore, supervisors fail to have

either enough funds to send people to training programs or workload may be such that the supervisor reassesses priorities and fails to permit personnel absences for previously planned training.

- Do current personnel policies actually inhibit promotion from within?

  Federal personnel policy requires individuals to be "qualified" for a job into which they are hired or promoted. Training policy directs that training be given in order to develop skills, knowledge and abilities of employees for performance of current duties. In addition, 67 percent of all civilian training is for this purpose and 29 percent for new requirements (including new technologies, changed missions, future staffing needs, and unavailable skills).

- Is there a correlation between training and promotion?

  A DOD study on management training found that those civilians who participate in training programs are more likely to be promoted than those who do not, even though this education is aimed at current job performance rather than preparation for higher positions (Ref. 3). In addition, the study found that a slightly higher proportion of civilians than military participated in sponsored training, but of much shorter duration than military. Therefore, overall, civilian managers generally have less training than their officer counterparts.

- What are the implications of the current skewed distribution of expenditures on training with regard to equity and effectiveness?

  Mid-grade civilians (GS-9 to GS-12) receive a disproportionate amount of training, as contrasted with low-grade civilians (GS-1 to GS-4) and wage grade civilians (blue collar). The difference amounts to three to four times more training. This training may provide mid-grade employees more mobility while trapping lower grade (GS) and wage grade (blue collar) civilians in their current job categories. Other questions of equity are also raised, such as the amount of training delivered among different agencies, in different geographic areas, and by minority, sex, etc.

Military Training

- How much basic education is provided new enlistees as an integral part of recruit and initial skill training programs?

  A DOD study of the All Volunteer Force (AVF, Ref. 4) states that for many technical skills in all services, limited reading ability appears to be the major cause of failure in training. Therefore, remedial reading programs are being used and technical manuals are being rewritten at lower reading levels with more illustrations. In addition, there is an imbalance among the services in recruit reading ability with the Air Force having a disproportionate share of good readers, and the Army having a disproportionate share of poorer readers.

- How good is a high school diploma as an indicator of educational ability?

  In the same study on the AVF, DOD states that the high school diploma is the best single measure of a person's potential for succeeding in the military (to complete their terms of service, their training programs and not to become disciplinary problems). However, the concern over reading ability of recruits includes those having high school diplomas and is believed by DOD to mirror U.S. society as a whole. As a result, the services are developing an adaptation of the Armed Forces Vocational Aptitude Battery (ASVAB) test to provide information on reading ability of potential enlistees. Since reading data was not collected during the draft years, no trend information is available now. However, this raises the question as to whether, in fact, the high school diploma does represent a minimum level of scholastic achievement as in earlier years.

- Does the military provide officer training commensurate with expected responsibilities?

  The DOD study on manager training (Ref. 3) states that all services prepare officers for their next assignment. Also, officers receive more training than DOD civilian managers. The policy of preparing military personnel for their next assignment is counter to the federal civilian policy mentioned above. In addition, examination of DOD training data may indicate that they overtrain some officers.

For example, the Army had 151 Officer Skill Progression courses in FY 1978, lasting 109 days each on average, and with 4,078 officers attending these courses. Therefore, over four percent of the officer corps attended this single category of training in one year.

Other Training

- Does the training reported by California indicate a basic change in the type of training being provided?

  The numbers of participants in training decreased by eight percent while the number of training hours increased by 19 percent. Also, career related training was reported as increasing by 35 percent. These changes were all reflected over a one year period, 1976/77 to 1977/78. Since these changes are quite drastic, they raise questions as to what is really happening in California employee training.

- Will the trends in state and local training follow the trends in federal civilian training?

  Federal civilian employment peaked in 1969. Federal civilian training occurrences peaked in 1976. State and local government employment is still growing, but at a slower rate than in the 1960's. State and local employee training appears to be increasing, in some cases rapidly. Barring significant budget reductions, indications are that this training will continue to grow for some time. It is possible, however, as the state and local work force stabilizes, that training of these employees will moderate and perhaps decrease in the future, similar to the federal experience.

- Should the independent federal agencies and state and local governments be encouraged to continue to centralize reporting and management of training programs within their jurisdictions?

  Further centralization of training could provide better management, more responsiveness to state and local needs, and better data on size and scope of training programs. Less independence, initiative and efficiency could also result.

1.2.4 Issues For Further Study

This overview of public sector training and education has raised broad policy issues which may need further study and research. The following is a list of the principal issues identified.

- Is it possible and worthwhile to reduce the uncertainties in the available training data (training occurrences, costs, type and source of data, etc.)?
- Since state and local government employees make up such a large percentage of all public sector employees (68 percent), should a larger and more stratified sample of training at these levels be made in order to provide greater insights into the size and scope of the training?
- Should a better job be done to measure effectiveness of the large amount of resources committed to public sector training? Should this include cost/benefit analysis and performance measurements such as advancements and productivity improvements?
- What are the socio-economic impacts of these high expenditure levels, such as their distribution, the large numbers of trained military transferred into private sector, the large government in-house training establishment, and the mix of recipients (minority, sex, age, etc.)?
- Because of their large size in dollars and people, should these expenditures and programs be fully taken into account by policy makers when developing national education and training policy? If so, how should this information be used and by whom?

2. DESCRIPTION OF PUBLIC SECTOR TRAINING

2.1 UNIVERSE OF PUBLIC SECTOR TRAINING

In total, the numbers of persons directly employed by United States Government entities at federal, state and local levels, approached 19 million persons in fiscal year 1978. Table 2.1-1 summarizes their numbers and organizations.

Only the Office of Personnel Management (OPM, formerly the Civil Service Commission) and the Department of Defense (DOD) collect detailed training data on most federal civilian employees and the members of the four military services respectively (approximately 27 percent of the total public sector population). Therefore, the total numbers of employees who received paid training in 1978 and the costs of their training is not known with with certainty. Based on the OPM and DOD data, however, some estimates have been made of the overall size and costs of total public sector training.

Table 2.1-2 estimates that probably between three and four million public sector employees received training in 1978. The major assumptions are that:

- The more recent and continuing growth of state and local employment (following federal employment growth which peaked in 1969) has not yet resulted in fully developed internal state and local training programs
- Recent inflationary and budget pressures may be slowing the expansion of these training programs

TABLE 2.1-1

SUMMARY OF PUBLIC SECTOR PERSONNEL, 1978[1]

Government Organization	Numbers
Federal Civilian Employees	2,255,281
Armed Forces	
DOD Military (Active)	2,061,443
(Reserve)	805,805
Coast Guard Military (Active)	37,746
(Reserve)	11,700
U.S. Postal Service	656,076
Tennessee Valley Authority	47,000
State and Local Governments	12,817,000
Public Sector Personnel Not Listed Elsewhere	30,000
TOTAL	18,722,051

[1]See Appendix A for a detailed breakout and the sources of these numbers.

TABLE 2.1-2

ESTIMATE OF TOTAL PUBLIC SECTOR
EMPLOYEES RECEIVING TRAINING, 1978

Government Organizations	Individuals Trained	
Federal Civilian Employees	515,000	
Armed Forces		
DOD Military	1,560,000	
Coast Guard Military	30,600	
Subtotal	(2,105,600)	
(Range of Estimates)[1]	(25% of Federal Rate)	(50% of Federal Rate)
U.S. Postal Service	37,500	75,000
Tennessee Valley Authority	2,700	5,400
State and Local Governments	731,900	1,463,800
Subtotal	(772,100)	(1,544,200)
Total Range	2,877,700 --	3,649,800
Rounded	3 million --	4 million

Source: OMB, OPM, & DOD data.

[1] 22.8% of all federal civilian employees received training in 1978. The Range of Estimates is computed assuming that civilian employees of the Postal Service, TVA and state and local governments received less training than federal employees, at between 25% and 50% of the federal rate.

- Independent agencies and state and local governments support less training than the federal agencies reporting to OPM.

Therefore, a range of estimates is made, whereby the low side is estimated at 25 percent of the federal civilian training rate (numbers of employees trained to total employees), and the high side at a 50 percent rate. The resulting estimate is that between three and four million persons received government paid training and education in 1978. If further research should prove these assumptions too conservative, a 75 percent rate, for example, would only add 442,000 persons to the high side estimate, which would still be close to four million employees trained. It is, therefore, reasonable to believe that the correct range is close to that estimated.

In the same manner, Table 2.1-3 shows that the total expenditures on training in the public sector probably lie between $9 and $10 billion (of which almost $6 billion is for the military). Again, if further research proves the 25 - 50 percent estimate too conservative, a 75 percent expenditure rate would add at most, $1.6 billion to the high side estimate of $10 billion.

As shown, we are dealing with very large numbers, varied and uneven data, inexact definitions and uncertain limits. Therefore, many parts of this preliminary analysis must include order of magnitude estimates and extrapolations of limited data. Future research would reduce the uncertainties of the data and the range of estimates by allowing more sophisticated statistical analyses and tests.

Limitation - This overview is limited to individual employee training in formal classroom situations, paid or sponsored by a United States government entity (federal, state or local level). Therefore, informal, on-the-job training,

TABLE 2.1-3

ESTIMATE OF TOTAL PUBLIC SECTOR EXPENDITURES ON TRAINING AND EDUCATION, 1978

Government Organization	Millions of Dollars		
Federal Civilian Agencies	$1,100		
Armed Forces			
DOD Military	5,900		
Coast Guard Military	65		
Subtotal	(7,065)		
(Range of Estimates)[1]	(25% of Federal Costs)		(50% of Federal Costs)
U.S. Postal Service	80		160
Tennessee Valley Authority	6		11
State and Local Governments	1,563		3,127
Subtotal	(1,649)		(3,298)
Total Range	$8,714	--	$10,363
Rounded	$9 billion	--	$10 billion

Source: OMB, OPM and DOD data.

[1] In aggregate, each federal civilian employee receiving training cost $2,136 to train in 1978. The Range of Estimates is computed assuming that civilian employees of the Postal Service, TVA and state and local governments received less training than federal employees, at between 25 and 50 percent of the federal costs.

correspondence courses and military unit or operational training is beyond the scope of this initial examination of public sector training.

2.2 LEGAL BASIS FOR TRAINING AND REPORTING

In 1958 the Congress passed the Government Employees Training Act (5 USC 41), the basic statute authorizing employee training throughout most of the federal government. Authorities granted by this act are broad and flexible enough to enable an agency to provide whatever training is necessary to develop the skills, knowledge, and abilities of employees for performance of official duties. Therefore, principally, an agency may:

- Establish or improve internal training programs
- Send employees to programs conducted by other government agencies
- Send employees to non-government training programs (if such training is not reasonably available within government)

In passing this act, the Congress intended to:

- Promote efficiency and economy in the operations of the government
- Provide the means for the development of maximum proficiency in the performance of official duties
- Encourage use of best modern practices and techniques in the public interest
- Develop programs to lead to improved public service, economy and the building of a permanent cadre of skilled and efficient government employees.

The law explicitly excludes certain agencies and functions from provisions of the law and the reporting

requirements to OPM. Principal among these exclusions are the U.S. Postal Service, the Tennessee Valley Authority and the Uniformed Services of DOD and the Coast Guard.

Executive Order 11348, April 20, 1967, provided Presidential direction in the use of the statutory authority of the law and directed OPM to provide leadership in promoting, planning, developing and coordinating federal employee training.

The Intergovernmental Personnel Act of 1970 provided authority for state and local government employees to be admitted to federally sponsored and conducted training programs. The intent of Congress in providing this authority was to strengthen the training and development of state and local government employees, particularly in professional, administrative and technical fields. (Further, an agency head may waive payments from state and local governments for the cost of training provided.)

In 1972, the Equal Employment Act directed that federal training and education programs were to be designed to provide maximum opportunities for all employees to perform at their highest potential.

The Foreign Assistance Act of 1961, as amended, authorizes admission to agency training programs employees of international organizations to which the United States is a member. The Agency for International Development (AID) approves such training, which is accomplished on a reimbursable basis.

Finally, in 1974, the Congress directed the Department of Defense to report annually on its recommended "average student load for each component of the armed forces ...and shall include in that report justification for, and explanation of, the average student loads recommended." (10 USC 138d2)

Therefore, broad statutory authorities exist to permit and encourage training and education of public sector personnel. Reporting and data requirements, however, are currently limited to civilian agencies reporting training to OPM and the four military services in the DOD. The principal organizations not centrally reporting on their training programs include the U.S. Postal Service, the Tennessee Valley Authority, the Coast Guard Military, and state and local government entities.

3. DIMENSIONS OF PUBLIC SECTOR TRAINING

The purpose of this chapter is to summarize the dimensions of public sector training. In each major portion of the public sector described in Chapter 2 (federal civilians, armed forces, independent agencies and state and local governments), a preliminary analysis will be presented based on available data, covering the data bases, the costs, size, emphasis, trends, distribution and issues of public sector training. Where possible, initial estimates will also be made on the objectives of the training as well as impacts on other educational institutions.

3.1 FEDERAL CIVILIAN TRAINING

The Office of Personnel Management (OPM) has maintained an automated training file since 1974, containing detailed data on employees trained each year in the agencies covered by the Government Employees Act of 1958. In 1978 there were 2,255,281 federal civilian employees covered by OPM reporting procedures. In that year, OPM estimates that 807,000 training occurrences were accomplished envolving 515,109 different individuals and at a cost of $272 million.

3.1.1 The OPM Data Base

The OPM data is collected in several general categories, each containing subdivisions of data elements. The seven areas are: purpose of training, type of training, source of training, costs of training, duration of training, completion date of training and special interest programs. (See Appendix B for

for a full breakout of the subdivisions.) The training reported represents formal, classroom training in excess of eight hours, and identifies when some individuals participate in more than one training occurrence in each year.

This detailed data permits OPM to accomplish analysis in some detail and in varied formats. Much of this analysis is summarized and reported to Congress annually. Since activation of the automated data base, two reports have been completed, both entitled Employee Training in the Federal Service. The first report covers fiscal years 1974-1976, and the second covers fiscal year 1977. A report is now in preparation for fiscal year 1978. The data used for this preliminary analysis is drawn from that contained in the first two reports, the data collected for the 1978 report as well as selected raw data from the OPM training file.

The reports to Congress prepared by OPM identify measures such as volume of training (occurrences, individuals, hours); costs (direct and indirect); type, source and purpose of training; and comparative analyses reflecting emphasis, recipients and trends. By merging this training file with the Civilian Personnel Data File, additional assessments can be made of personnel related questions, such as measures of equity (by minority and sex) and distribution (by employer group and geographic location).

In the area of costs, Table 3.1-1 reflects OPM reported costs by direct and indirect categories. OPM does not report costs attributable to trainer/student salaries; some training development specialist and support personnel salaries; costs of operating and maintaining in-house facilities; or funds for procurement or investment in materials and facilities. These costs are discussed further in Section 3.1.2 below.

TABLE 3.1-1

OPM REPORTED COSTS OF FEDERAL CIVILIAN TRAINING, 1978

Category	Millions
Direct Costs	
Salaries of Instructors	$111
Tuition, fees, books	69
Indirect Costs	
Travel and Per Diem	92
Total Expenditures	$272

Source: OPM Training Data, 1978.

OPM is now in the process of trying to improve the quality of its data base, especially the cost data. This effort is highlighted in the 1977 report to Congress, and is in response, at least in part, to criticism by the Government Accounting Office (GAO). In 1975 the GAO urged the Commission (now OPM) to "...define and achieve a consensus among the Executive departments and agencies on the elements that make up total cost of training and then ensure that data on these elements is uniformly determined and collected." (Ref. 2). In an overall sense, some of the smaller agencies required to report their training to OPM do not, and others submit hard copy data. The real quality of the OPM data base, including the cost data, is unassessed at this time, with some areas of uncertainty.

3.1.2 Dimensions of Federal Civilian Training

Total Costs - Since OPM does not now collect or report total costs of federal civilian training, estimates of the omitted cost categories is necessary. Table 3.1-2 reflects such estimates that would more than quadruple the OPM reported costs (on Table 3.1-1) to a level exceeding $1.1 billion each year. Salaries of trainees are computed, using average 1978 salaries for each group of employees (GS-1/4, 5/8, 9/12, etc.) and hours of training received by each group. Overhead, administration, procurement and investment costs are estimated as shown. A report was completed in 1978 for the Department of Labor (Ref. 5) which estimated total costs of federal civilian training in 1976 at $833 million. Based on that estimate, 1978 cost data, the scope of the training reported, total training costs, direct and indirect, must be in the range of $1.1 billion for 1978.

Measures and Emphasis of Training - Table 3.1-3 highlights the principal measures of federal civilian training in 1978. Of special interest is that over 99 percent of the

TABLE 3.1-2

TOTAL ESTIMATED COSTS OF FEDERAL CIVILIAN TRAINING, 1978

Direct Costs	Millions
Salaries of Trainees	$360[1]
Salaries of Direct Training Personnel	111
Tuition, fees, books	69
Indirect Costs	
Salaries of Employee Development Specialists and Support Personnel	58[2]
Travel and Per Diem	92
Overhead and Administration	360[3]
Procurement and Investment	53[4]
TOTAL COSTS	$1,103

Source: OPM Training Data, 1978.

[1]Computed, based on average 1978 salaries of federal employees, by group and hours of training. (Pay Structure of the Federal Civil Service, OPM, 1978.)

[2]Costs collected by OPM but not included in their expenditure calculations.

[3]Estimated at 100 percent of trainee salaries.

[4]Estimated at 5 percent of other total costs, which is less than DOD reported costs of 8 - 10 percent.

TABLE 3.1-3

MEASURES OF FEDERAL CIVILIAN TRAINING, 1978

	Numbers	Percent
Amount of Training (Occurrence)		
Long term training[1]	566	0.07
Short term training	806,900	99.93
		100.00
Length of Training (Hours)		
Long term training	1,028,160	3.0
Short term training	33,182,005	97.0
		100.0
Average Length of Training (Hours/Occurrence)		
Long term training	1,816.0	
Short term training	41.1	
Provider of Training (Short Term, Occurrence)		
Government (in-house)	596,899	74.0
Non-government (private institutions)[2]	209,909	26.0
Other (some not specified)	92	*
		100.0
Non-Federal Provided Training (Short Term, Occurrence)[2]		
Standard Catalogued Courses	162,154	77.2
Specially Developed and Other Courses	42,276	20.2
State and Local Courses	5,479	2.6
		100.0

Source: OPM Training Data, 1978.

[1] In excess of 120 days. All of this training is reported as from non-government sources.

[2] Includes academia, private industry and service firms (vendors).

* Less than 1%.

training occurrences are of short duration (averaging 41 hours per occurrence), 74 percent of the training occurrences are performed in the government's own in-house facilities, and 77 percent of privately provided training is through standard catalogued courses.

Table 3.1-4 provides an overview of the emphasis of federal civilian training. Over 67 percent of occurrences of training is for the purpose of improving present performance, while 29 percent provides skills for new requirements. This seems to be a large percentage in view of the fact that government personnel policy explicitly requires "qualified" applicants for employment consideration. Therefore, this training apparently is driven by the desire to retain employees already in the system by retraining them for new and changed needs. Of other interest is that training of a technical nature (specialty/technical) amounts to over 55 percent of the training occurrences.

A disproportionate amount of training appears to go to the General Schedule (GS classified) employees, who received over 86 percent of all training occurrences, while making up only 71 percent of all federal civilian employees. Conversely, wage system employees (normally referred to as "blue collar" employees) received only 8.7 percent of the training while representing 24 percent of the population.

In addition, Table 3.1-5 shows further distortion in the emphasis of training received between General Schedule and wage system employees, as well as within the General Schedule itself. Employees at grade GS-9 to GS-12 received more than three times the training of GS-1 to GS-4 employees, and more than four times the training of the wage system (blue collar) employees. Compared to their percent of federal civilian employee population, GS-5 through GS-15 employees receive significantly more training based on training occurrences than their population represents.

TABLE 3.1-4

EMPHASIS OF FEDERAL CIVILIAN TRAINING, 1978
(SHORT TERM TRAINING)

	Occurrence	Percent
Purpose of Training		
To improve present performance	541,996	67.1
For new requirements[1]	231,275	28.7
Other[2]	33,629	4.2
		100.0
Subject of Training		
Specialty/Technical[3]	445,690	55.2
Supervisory/Management/ Administration	264,432	32.8
Other[4]	96,778	12.0
		100.0
Individuals Receiving Training		
General Schedule (GS) Employees	697,519	86.5
PL-313 and Other Executive	4,164	0.5
Wage System Employees (Trades & Crafts)	69,909	8.7
Other Pay Systems[5]	35,308	4.3
		100.0

Source: OPM Training Data, 1978.

[1] Includes new technologies, new assignments, changed missions, future staffing needs and unavailable skills.

[2] Includes apprenticeship programs, orientation courses and adult basic education.

[3] Includes legal, medical, scientific, engineering, trades, crafts.

[4] Includes clerical, orientation and adult basic education.

[5] Includes Foreign Service; doctors and nurses in Veterans Administration executive levels, Panama Canal, source not specified, etc.

TABLE 3.1-5

FEDERAL EMPLOYEE TRAINING PARTICIPATION, 1978
(SHORT TERM TRAINING)

Category	Percent of Training Received[1]	Percent of Population
General Schedule Employees		
GS-1 through GS-4	11.3	15.1
GS-5 through GS-8	26.2	22.1
GS-9 through GS-12	36.4	24.1
GS-13 through GS-15	12.4	9.8
GS-16 through GS-18	0.2	0.3
Total GS	86.5	71.4
Wage Systems	8.7	24.0
Others	4.8	4.6
TOTAL	100.0	100.0

Source: OPM Training Data, 1978.

[1]Based on training occurrences.

Table 3.1-6 summarizes federal civilian training by agency. Defense, the Veterans Administration, Treasury and Agriculture are the largest users of federal civilian training. As noted however, most of the non-defense agencies used more training (on an occurrence basis) than their respective population percentage. DOD, with 1,017,000 employees had 40 percent of the occurrences and spent 31.6 percent of the reported dollars, while representing 45 percent of the federal civilian workforce. Treasury, as an example, used 9.4 percent of the occurrences and spent 8.6 percent of the dollars while only representing 4.8 percent of the workforce.

3.1.3 Trends in Federal Civilian Training

The costs of training federal civilian employees has risen faster than inflation since 1975. (See Table 3.1-7.) Overall costs as reported by OPM have gone up 11.5 percent (in constant 1975 dollars), average costs per hour and per occurrence have gone up even more, 18.6 percent and 25.0 percent respectively. Simultaneously, hours spent in training (per occurrence) and the average length of training (per occurrence) have gone down 11.5 percent and 6.5 percent respectively. Total occurrences have also decreased (6.5 percent) since 1975 (see Table 3.1-8). During this same period agency personnel devoted to training and reported to OPM have increased each year, from 8.574 (1975) to 10,599 (1978) or by 23.6 percent. This tends to indicate that agencies are still supporting increased training programs, but because of other reasons (perhaps budget restrictions) have recently reduced the numbers of people actually sent to training courses.

Within the agencies a shift in emphasis has also taken place since 1975. In that year DOD civilian training accounted for nearly 45 percent of all training (on an occurrence basis). By 1978, this had decreased to 40 percent. Therefore, non-defense agencies have shown an overall trend toward increased training, which is consistent with employment trends. DOD civilian employment peaked in FY 1968 during the Vietnam war at about 55 percent

TABLE 3.1-6

FEDERAL CIVILIAN TRAINING BY AGENCY, 1978
(SHORT TERM TRAINING)

	Occurrences		Costs[1]		Population
Agency	Number	Percent	Number (Millions)	Percent	Percent
Defense	322,700	40.0	51.0	31.6	45.1
Veterans Administration	81,700	10.1	4.9	3.0	8.8
Treasury	76,200	9.4	13.9	8.6	4.8
Agriculture	75,000	9.3	29.2	18.1	3.8
Transportation	45,100	5.6	29.2	18.1	3.2
Health, Education and Welfare	44,100	5.4	4.7	2.9	6.4
Interior	35,700	4.3	5.5	3.4	2.4
Justice	27,200	3.3	3.8	1.9	2.3
Commerce	16,900	2.1	3.1	1.9	1.3
NASA	14,600	1.8	2.0	1.3	1.0
GSA	10,300	1.3	1.3	0.8	1.6
HUD	12,000	1.5	2.5	1.5	0.7
Labor	9,200	1.1	1.7	1.0	0.9
State/AID	2,600	0.3	1.0	0.6	1.3
EPA	3,500	0.4	0.7	0.4	0.4
All Others	34,100	4.1	6.9	4.9	16.0
TOTAL	806,900	100%	161.4	100%	100%

Source: OPM Training Data, 1978

[1]OPM reported costs only, excluding salaries.

TABLE 3.1-7

TRENDS IN FEDERAL CIVILIAN TRAINING, 1978
(Costs and Hours in Training)

Measure	Year				Percent Change
	1975	1976	1977	1978	1975-1978
OPM Reported Costs (dollars millions)	200	238	257	272	+36.0
(Constant 1975 dollars, millions)	(200)	(226)	(230)	(223)	(+11.5)
Average cost per hour (dollars)[1]	5.11	5.75	6.86	8.06	+57.7
(Constant 1975 dollars)	(5.11)	(5.45)	(6.13)	(6.06)	(+18.6)
Average cost per occurrence (dollars)[1]	230.57	247.84	290.96	351.54	+52.5
(Constant 1975 dollars)	(230.57)	(235.14)	(260.02)	(288.14)	(+25.0)
Hours in training per occurrence (thousands)[2]	37.5	39.9	36.4	33.2	-11.5
Average length of occurrence (hours)[2]	45.13	43.14	42.43	42.37	-6.5

Source: OPM Training Data, 1978.

[1]Excludes salaries.

[2]Short term training.

TABLE 3.1-8

TRENDS IN FEDERAL CIVILIAN TRAINING, 1978
(Occurrences of Training)[1]
(Thousands)

Agency	Year 1975	1976	1977	1978	Percent Change 1975-1978	Percent Population Change 1975-1978
Defense	383	454	341	323	-15.7	-10.1
Veterans Administration	62	77	77	82	+32.3	+ 7.3
Treasury	85	71	89	76	-10.6	+ 0.4
Agriculture	82	81	84	75	- 8.5	+ 7.3
Transportation	38	41	47	45	+18.4	+ 1.2
Health, Education & Welfare	33	50	58	44	+33.3	+11.1
Interior	41	40	33	36	-12.2	- 5.7
Justice	23	30	35	27	+17.4	+ 7.8
Commerce	15	16	20	17	+13.3	+ 3.2
NASA	17	22	18	15	-11.8	- 4.8
Gen. Services Administration	17	14	14	10	-41.2	- 3.5
Housing & Urban Development	14	11	10	12	-14.3	+ 5.4
Labor	5	6	7	9	+80.0	+58.0
State/AID	3	2	3	3	0	- 0.2
EPA	8	6	4	3	-62.5	+10.9
All Others	37	36	42	30	-18.9	+36.0
TOTALS	863	957	882	807	- 6.5	+ 1.1

Source: OPM Training Data, 1975-1978.

[1]Short term training.

of total executive department employment (excluding the U.S. Post Office) and has decreased since that time such that by FY 1978 it only represented 45 percent of the employment. Therefore, of the total federal civilian training being performed, non-defense civilians receive proportionately more training now than in previous years.

3.2 ARMED FORCES TRAINING

The armed forces include the four military services in the Department of Defense (Army, Navy, Marine Corps and Air Force) as well as the U.S. Coast Guard. In peacetime, the Coast Guard is in the Department of Transportation and transfers to the Navy in wartime. As previously mentioned (Section 2.2) the Government Employees Training Act of 1958 explicitly exempts the Uniformed Services of the DOD and Coast Guard from reporting their training activities to OPM. For DOD, this was later covered in 1974 when they were directed to report annually to Congress to justify its training expenditures. The Coast Guard does not have any special reporting requirements for their training.

In 1978 there were 2,061,443 active military in the DOD and 37,746 in the Coast Guard (plus 805,805 DOD and 11,700 Coast Guard reservists). During this year, over 1,500,000 DOD and 30,600 Coast Guard personnel received formal training at a cost of $5.9 billion in the DOD and $65 million in the Coast Guard.

3.2.1 DOD Military Training Data Base

The DOD training data base has been developed as a part of its financial planning mechanism (Five Year Defense Program). Since this system puts great emphasis on projecting

programs and their costs for the purpose of justifying these programs to Congress each year, the training data base also emphasizes projecting training needs as opposed to historical performance. The principal categories of data collected include: purpose of training, recipient characteristics, student load factors and costs (Appendix C contains a further breakout of these categories and their subdivisions). Unlike the OPM file, DOD explicitly includes costs of training support (operating and maintenance costs), costs of student salaries, and investment costs (procurement and construction). Thus, for DOD military, a more complete picture of total costs are available.

In accordance with the 1974 law governing DOD reporting training requirements to Congress, DOD must "include in that report justification for, and explanation of, the average student loads recommended." Therefore, in order to comply with the law and be able to fully justify "planned" training, DOD makes a special point to collect data and to analyze its training on the basis of the "student loads" in the various training courses.

The student load represents the average student strength for the period concerned and approximates man-years consumed in training activities. The total training load for DOD becomes the sum of the loads for all of the individual courses conducted. The following factors are used to determine training loads:

- The length of the training course
- The number of graduates, or output
- The number of entrants, or input required to assure the required output.

A generalized formula[1] incorporating these factors is used to determine the loads. The prediction of attrition rates (the difference between entrants and output) becomes very important to the prediction of the student load of each course. Therefore, estimates of attrition are made on the basis of historical experience in each course and type of student. When this attrition occurs at other than a uniform rate throughout the course length, which is frequently the case, then more complex formulas and computer simulations are used to estimate the training loads.

3.2.2 Dimensions of DOD Military Training

Total Costs - The total estimate of $5.9 billion for DOD military training in FY 1978 is broken out by direct and indirect costs and by training category in Table 3.2-1. As mentioned above, these costs represent DOD's estimate of total costs attributable to this formal individual training function (excluding on-the-job training, correspondence courses and military unit or operational training). Salaries of trainees/students, instructors, support personnel, and procurement and construction costs are included. As noted, almost $1.8 billion is committed to specialized skill training, with flight and recruit training the next largest categories. The indirect costs of $3.1 billion represent about 43 percent of the total costs.

Measures and Emphasis of Training - Overall, DOD does a tremendous amount of training. The 1,500,000 individuals trained in FY 1978 represented an average student load of

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[1] $\text{Training Load} = \frac{\text{Entrants} + \text{Graduates}}{2} \times \text{Course Length (as fraction of a year)}$

Military Manpower Training Report for FY 1980, March 1979, pg. I-5.

TABLE 3.2-1

TOTAL ESTIMATED COSTS OF DOD MILITARY TRAINING, 1978, BY TRAINING CATEGORY

Direct	Millions
Recruit	720
Army One-Station	136[1]
Officer Acquisition	244
Specialized Skill	1,790
Flight	689
Professional Development	263
Medical	181
Subtotal	4,023
Indirect	
Base and support	2,017
Management Headquarters	83
Change of station, TDY and Reserve Component Pay	927
Subtotal	3,027
TOTALS	7,050
Less Adjustments[2]	-1,183
Total Training Costs	5,867

Source: DOD Military Manpower Training Data, 1978.

[1]A new Army program of providing recruit and initial skill training at one base, therefore saving one training move to a new base.

[2]Represents DOD estimates of costs reported that are not attributable to training. Adjustments are for those management headquarters and base operating support functions on training bases not related to training functions. Detail does not exist to allocate this adjustment by category.

214,000 people. On every day of the year, then, an average of 214,000 people were in a formal training course.

Many of these 1.5 million individuals attend more than one course in a given year. For instance, an enlisted person will attend basic recruit training and may go on to an initial skill training course, followed by a skill progression training course. It is also possible in the same year for him or her to attend a short functional course on some special equipment or activity. Across the four military services, more than 90 percent of recruit training graduates go on to initial skill training schools (Ref. 6).

Table 3.2-2 shows how this training was accomplished, by service and by category. The Army does the most total training, followed by the Navy. The Air Force, although larger than the Navy and with much sophisticated equipment, does far less training than either the Navy or the Army. This reflects the fact that the Air Force succeeds in obtaining higher quality recruits and retains a higher percentage of trained personnel. This is discussed in more detail later.

Examination of the training by category reveals the following points:

- Over 33 percent of all DOD military training is to provide initial orientation and indoctrination into the armed forces (for both enlisted and officers)
- Over 55 percent of all DOD military training is specialized skill training (including initial skill courses and skill progression courses)
- Over 95 percent of all DOD military training is designed to provide new skills to members (professional development training is only 4.7 percent of the total)

TABLE 3.2-2

DOD MILITARY TRAINING LOADS, FY 1978

	Training		Population
By Service	Thousands	Percent	Percent
Army	67	31.3	26.8
Navy	59	27.6	18.5
Marine Corps	21	9.8	6.6
Air Force	41	19.2	20.0
Reserve Components	26	12.1	28.1
TOTAL	214	100.0	100.0
By Category			
Recruit	54	25.2	
Officer Acquisition	17	7.9	
Specialized Skill	118	55.1	
Flight	5	2.3	
Professional Development	10	4.7	
One-Station Unit	12	5.6	
TOTAL	214[1]	100.0[1]	

Source: DOD Military Manpower Training Data, 1978.

[1]Detail does not add to total due to rounding.

An overall characteristic of military training which drives the high recruit and officer acquisition training is the fact that much of the DOD training is strongly driven by the number of non-prior service accessions that enter the military each year. An accession is a new, unskilled recruit or officer, who must be trained, and in the majority of cases does not make the military a full career. Thus, his or her replacement must also be trained to retain the needed skill levels in the armed forces. DOD estimates that approximately 30 percent of all new male enlistees in FY 1978 (who enlisted for three years or more) will actually leave the service before completing three years of service. (See Table 3.2-3.) As a result, by FY 1980, accession driven training will approximate 77 percent of all DOD military training. (See Table 3.2-4.)

A closer look at training (Table 3.2-5) reveals an exceptionally large number of individual courses (exceeding 7,000), average course lengths ranging from five to 25 weeks, and attrition estimates for some army enlisted courses exceeding 10 percent of the student loads.

In order to provide greater insights into the size, breadth and complexity of some of the DOD specialized courses, Table 3.2-6 provides a sampling of the courses in each military service with the most students, reflecting the number of students in each course and the course lengths.

3.2.3 Trends in DOD Military Training

In FY 1973, the DOD training load was 299,000 trainees/students. The training loads have been decreasing each year through FY 1978, while the military population has been relatively constant. (See Table 3.2-7.) Increased attrition is

TABLE 3.2-3

DOD MILITARY FIRST TERM ATTRITION, 1978

Service	Percent Projected[1]
Army	30
Navy	31
Marine Corps	31
Air Force	27
DOD	30

[1]Percent of those non-prior service males who enlisted for three or more years in 1978 and are projected to leave before completing three years of service.

Source: A Report on the All-Volunteer Armed Forces, OASD MRA&L), Dec 31, 1978, pg. 65.

TABLE 3.2-4

DOD ACCESSION-RELATED TRAINING LOADS, 1980

Accession Related Loads	Thousands	Percent
Recruit	50.2	21.8
One-Station Unit	27.8	12.1
Officer Acquisition	17.5	7.6
Initial Skill	76.6	33.2
Undergraduate Flight	5.3	2.3
Subtotal	177.4	77.0
Other Training Loads		
Other Specialized Skill	42.6	18.5
Other Flight	0.7	0.3
Professional Development	9.8	4.2
Subtotal	53.1	23.0
TOTAL	230.5	100.0

Source: Data extracted from DOD Military Training Report for FY 1980, March 1979.

TABLE 3.2-5

DOD MILITARY SPECIALIZED SKILL TRAINING, 1978

Category	Service			
	Army	Navy	Marine Corps	Air Force
Initial Skill - Enlisted				
Number of Courses	243	162	213	365
Avg. Days of Training	71	48	60	81
Avg. Attrition Rates	10.4%	6.0%	8.0%	7.0%
Student Loads	14,224	36,479	10,104	24,350
Skill Progression - Enlisted				
Number of Courses	144	1,128	162	1,607
Avg. Days of Training	76	56	73	31
Avg. Attrition Rates	3.3%	4.0%	8.0%	*
Student Loads	3,523	9,969	993	5,735
Initial Skill-Officer*				
Number of Courses	**	23	52	61
Avg. Days of Training	84	92	126	66
Student Loads	2,865	1,260	1,101	809
Skill Progression - Officer*				
Number of Courses	151	148	52	374
Avg. Days of Training	109	39	91	19
Student Loads	4,078	911	85	614
All Other[1]				
Number of Courses	497	1,404	147	8
Avg. Days of Training	41	4	56	8
Student Loads	8,962	3,755	1,249	202

Source: Data extracted from DOD Military Manpower Training Report for FY 1980, March 1979.

*Attrition estimated at less than 1 percent.

**Not provided.

[1]All speciality courses not neatly fitting the other categories.

TABLE 3.2-6

SAMPLE OF DOD SPECIALIZED TRAINING

Service and Course	Number of Students	Length Days[1]
Army --		
Medical Sepcialist	9,045	39
Administrative Specialists	6,506	48
Material Supply	5,325	67
Tracked Vehicle Mechanic	4,293	66
Wheel Vehicle Mechanic	2,748	77
Navy --		
Apprentice Training	25,828	19
Basic Electricity/Electronics	22,239	53
Aviation Fundamentals	18,307	12
Propulsion Engineer	10,898	22
Basic Enlisted Submarine	6,411	39
Marine Corps --		
Infantry Training School	11,088	53
Field Radio Operator	1,992	49
Basic Administration	1,955	20
Basic Electronics	1,951	100
Basic Automotive Mechanic	1,468	84
Air Force --		
Aircraft Maintenance Specialist	5,691	29
Security Specialist	5,474	32
Administration Specialist	3,129	43
Inventory Mgt. Specialist	2,114	31
Jet Mechanic	2,021	62

[1]Course lengths vary widely according to the complexity of the subject matter. For example, the Air Force course for avionics aerospace ground equipment specialist is 261 calendar days in length, whereas the course for jet aircraft mechanic specialist takes only 29 days. Army nuclear power plant operators receive an entire year of training, but motor transport operators complete their training in 35 days.

Source: DOD Military Manpower Training Report for FY 1980, March 1979, pg. V-5.

TABLE 3.2-7

DOD TRAINING LOADS, FY 75 - FY 80

Category	Loads in Thousands[1] FY 75	FY 76	FY 77	FY 78	FY 79	FY 80
Recruit	76	71	67	54	49	50
Officer Acquisition	19	18	17	17	17	18
Specialized Skill	130	130	125	118	116	119
Flight	6	5	5	5	5	6
Professional Development	15	12	10	10	10	10
One-Station Unit	-	2	8	12	27	28
TOTALS	246	238	232	214	224	230

Note: Detail may not add to totals due to rounding.

Source: Data extracted from DOD Military Manpower Training Report for FY 1980, March 1979.

[1]Actual training load in FY 73 was 299,000. Those for FY 79 and FY 80 are projected.

now starting to drive the training upward, as projected for fiscal years 1979 and 1980. By FY 1980, acquisition related training (recruit, one-station and officer acquisition) will be up to 96,000, an increase of nearly 16 percent, followed by slight increases in specialized skill training.

In the cost area, DOD revised its costing methodology in FY 1978 in order to provide more realistic total costs. By FY 1980, DOD estimates total costs to be in the range of $6.4 billion, up from $5.9 billion in FY 78. In constant dollars, a reduction in total spending will occur, the amount of which will depend on final inflation figures.

3.2.4 DOD Reserve Component Training

In addition to training members of the active forces, the military training establishment also trains members of the reserve components. This training is accomplished when reservists and guardsmen are on active duty for formal school training. DOD estimates that individual reserve training programs comprise approximately 12.0 percent of the total individual training accomplished. Table 3.2-8 summarizes the magnitude of training accomplished for the reserve components which has been included as part of the overall DOD military training program just presented. Unlike the active forces, the reserve components perform more than half of their training in acquisition training (56 percent), while specialized skill and flight training drops from 57 percent (active and reserve) to 43 percent for just the reserves. This reduction is the result of the fact that much trained manpower leaving active duty service joins the reserve components, thereby reducing some requirements for technical-type training of reserve members.

TABLE 3.2-8

DOD MILITARY RESERVE COMPONENT TRAINING, 1978

By Component	Student Loads	Percent
Army Reserve	6,328	22.4
Army National Guard	14,616	51.8
Naval Reserve	906	3.2
Marine Corps Reserve	3,156	11.2
Air Force Reserve	1,276	4.5
Air National Guard	1,958	6.9
TOTALS	28,240	100.0
By Category		
Recruit	7,045	24.9
One-Station Unit	8,187	29.1
Officer Acquisition	590	2.1
Specialized Skill	11,839	41.9
Flight	321	1.1
Professional Development	258	0.9
TOTALS	28,240	100.0

Source: Data extracted from DOD Military Manpower Training Report for FY 1980, March 1979.

3.2.5 U.S. Coast Guard Military Training

In FY 1978, the Coast Guard spent approximately $65 million[1] on training its military members. This included training 30,600 individuals through 1,635 different courses. The Coast Guard policy is to conduct as much of its training as possible through existing courses outside the Coast Guard itself, such as in existing Navy seamanship courses. In FY 1978, 34 percent of the individuals trained were trained outside the Coast Guard's own training establishment. Table 3.2-9 shows a summary of Coast Guard training by source and type. As with the Department of Defense Military, the Coast Guard training is highly skill related and driven by new accessions who do not remain for a career. Over 77 percent is skill related (initial, advanced specialized).

Coast Guard officials state that they are trying to offer more training to its members as incentives to remain in the service. On the other hand, they, as DOD, are experiencing low retention of first-term members, which drives the entry and initial skill level training rates higher.

Currently, the Coast Guard maintains its training records manually, but is in the process of automating the data. Later this year it will be possible to do more detailed analysis of their training and compare it more fully to other training in the public sector.

3.3 INDEPENDENT AGENCY, STATE AND LOCAL GOVERNMENT EMPLOYEE TRAINING

As noted in section 2.2, certain federal agencies were excluded by law from reporting their training activities to OPM.

[1]Excludes overhead, procurement and investment costs.

TABLE 3.2-9

COAST GUARD MILITARY TRAINING, 1978

Source of Training	Students Trained		Courses	
	Number	Percent	Number	Percent
Coast Guard Conducted	20,100	65.7	85	5.2
Other Government Courses	9,500	31.0	1,395	85.3
Private Sector Institutions	1,000	3.3	155	9.5
TOTALS	30,600	100.0	1,635	100.0

Type of Training	Students	
	Number	Percent
Service Entry	7,000	22.9
Job Entry (Initial Skill)	5,600	18.3
Advanced & Specialized Training	18,000	58.8
TOTALS	30,600	100.0

Source: U.S. Coast Guard, Office of Training.
Data is approximate.

These are the U.S. Postal Service and the Tennessee Valley Authority (TVA). In 1978, the Postal Service had 656,000 employees and the TVA approximately 47,000. Significant employee training was conducted by both of these agencies. In addition, state and local governments are not covered by the law on federal civilian employee training. In 1978, there were approximately 12,817,000 employees of state and local government entities in the United States. The purpose of the following paragraph will be to outline the training of these agencies and governments within the limited data available.

3.3.1 U.S. Postal Service Training

The Postal Service was created as an independent establishment of the executive branch as a result of the Postal Reorganization Act of 1970. In addition to the national headquarters in Washington, D.C., there are five geographic regions, subdivided further by district and sectional offices and over 30,000 individual post offices. Postal Service training programs are not centrally reported in the same detail and consistency as the other federal agencies and the DOD military.

Nearly all postal service employees receive some training during their employment. The National Headquarters operates a Postal Service Training and Development Institute, with facilities at Bethesda, Maryland and Norman, Oklahoma.

The Bethesda facility, along with four field centers, conducts management, supervisory and postmaster training. Approximately 7,000 managers per year receive training through courses at these locations (4,000 in Bethesda and 3,000 in the field centers). The emphasis of this training is to provide new managers, at each level, with a concentrated management "action" training program. Thirty-one different programs, each three weeks long, are available according to need. Courses for new

postmasters, for example, emphasize mail processing, delivery services and mailing requirements. (These courses are accredited by the American Council of Education.) In addition, some of the courses are tailored for encumbent managers, who receive refresher training every three years.

The Norman, Oklahoma facility, called the Postal Service Technical Center, provides a wide range of technical training to Postal Service employees. The courses range from basic industrial electricity and diesel engine repair to computer technology, optical character readers and postal machine maintenance. The Postal Service, for example, owns 127,000 vehicles, many of which are serviced and repaired by employees. There are 21 bulk mail centers with a wide range of detailed, modern equipment to be operated and serviced. The Technical Center provides 64 resident courses and trains between 4,300 and 4,400 students per year. The course lengths vary between 1 and 16 weeks.

In addition to the national training centers, the Postal Service maintains approximately 200 Postal Employment Development Centers, co-located with larger post offices around the country. These centers provide field level training to local employees in management, delivery services and mail processing. The centers have 120 different programs to choose from, 20 of which can be accomplished by correspondence. Each of the nine Postal Regions can provide additional training, adapted to local needs. At this time, approximately 500 different local programs are conducted.

Aggregate data on total costs, total trainees or total training support is not now available on Postal Service Training. With an employee population of 656,000 and with the extensive training structure established, these numbers can be expected to be large. Additional data collection by the National Headquarters would be required in order to fully estimate these costs and their impacts.

3.3.2 Tennessee Valley Authority Employee Training

The Tennessee Valley Authority (TVA) is a corporation, wholly owned by the Government, created by Congress in 1933. It conducts a unified program of resource development for the advancement of economic growth in the Tennessee Valley region. While its power program is financially self-supporting, other programs are financed primarily by appropriations from Congress. Organizationally, the TVA is divided into six offices and 29 divisions, each division having responsibility for its own training programs.

The TVA reported 17,262 full-time permanent employees to OMB in FY 1978. Investigation reveals that in addition to these employees similar to federal general service employees, the TVA directly employs approximately 7,000 trades and craft personnel on an annual salary basis for operation and maintenance of facilities, and approximately 23,000 trades and crafts personnel on an hourly pay basis for construction and repair of facilities. All of these employees in excess of 47,000 are full-time employees of the TVA.

Except for a centrally managed apprentice program for approximately 2,000 apprentices in 18 different crafts, all training management is decentralized to the 29 division headquarters. Full-time permanent employees receive comprehensive training in nuclear, hydro-electric and chemical subjects, much in response to federal regulatory requirements. The trades and crafts employees, in addition to the apprenticeship program, receive training in equipment operation and technical skills related to the construction, operation and maintenance of the TVA facilities.

Although there is no regular centralized data collection on the total scope of TVA training, a one-time survey in 1977 revealed the following numbers of training incidents:

Courses, programs seminars and symposia	20,921
Apprenticeship	1,510
Tuition Reimbursements	1,357
Professional and Technical Meetings	399
Executive Development	28
Total Incidents	24,215

As with the Postal Service, current aggregate data on costs, trainees and training support is not now available. The TVA is now conducting a study which may lead to centralizing more of this data in the future. At this juncture, there is significant public sector training accomplished by the TVA, but the overall size and impacts are difficult to estimate.

3.3.3 State and Local Government Employee Training

Centralized data on state and local government employees does not exist. The extent of training varies greatly from state to state and within local governments. Inquiries were made to four states: California, Connecticut, Illinois and Maine. Contacts were also made with two counties in Virginia -- Arlington and Fairfax. In all cases, management of training is decentralized and except for California, very little hard data is collected at the state or county executive level. California makes an annual survey of state agencies in order to prepare a training report to the Governor. Impressions were received from all contacts that interest in training has been increasing recently, that budgets are generally increasing and moves are being made

to provide more centralized management and direction of the training programs.

In May, 1978, an article was published in the Training and Development Journal, which described training development in Iowa. It stated, for example, that in 1974, Iowa did not even have a separate personnel or training department. At that time, two interdepartmental management training courses were available, both conducted by non-governmental institutions and both for supervisory personnel. By 1978, thirteen programs were offered to managers and supervisors and five to non-management employees. These programs included management skills, labor-relations, supervisory skills, clerical and personnel. All other state employee training was the responsibility of individual state agencies and not monitored at the state level.

The following paragraphs summarize current knowledge of employee training in state and local governments.

State Employee Training - In Connecticut, with 40,000 state employees, the various state agencies manage their own programs. The total number of students/trainees are not available. However, courses were provided in business, writing, accounting and statistics. There is increasing concern over managerial competence, with emphasis on this type of training. Technical training is left to the various agencies and little information on its size or scope is available.

California provided a copy of their recent report to the Governor. The state operates a Personnel Development Center to provide management and executive training to mid-level managers and above. A statewide automated training information system is being developed, to "...mirror the training plans of departments and monitor training accomplished in accordance with new state training policy guidelines." (Ref. 7) Departments are to begin

collecting data on July 1, 1979 and the first report based on this system is scheduled for the fall of 1980.

The current report provided by California (from a previous manual survey), reported overall information, including the following points:

- The numbers of individuals participating in in-house training in 1977/78 decreased eight percent
- The civil service work force increased by six percent in the same period
- The major emphasis of training was in technical and professional training (nearly half of the in-house training)
- Total state expenditures for training increased from $1.6 million (1976/77) to $2.2 million (1977/78) -- 27.3 percent in 1977 constant dollars
- Although the number of participants decreased, the number of training hours increased by 19 percent
- State expenditures for career related training increased approximately 35 percent since 1975/76 (a three year period, costs reflected in real dollars).

Illinois reported that in 1978 they continued to emphasize the revision and development of a more comprehensive management training program. In addition, a review was completed of all state agency trainee and apprenticeship programs, resulting in new policies and program approval methodology (details on these changes were not provided). Overall, expenditures managed at the state level (Department of Personnel) on employee development will increase from $228.4 million in 1978 to $267.1 million in 1978. Many state agencies have their own staff development and technical training programs geared to the specific needs of their work forces.

County Employee Training - Only two counties were contacted, Fairfax and Arlington, Virginia.

In Fairfax County, Virginia, employee training is supported only to improve performance on the job in professional and technical areas. Great concern exists over costs, especially for travel and per diem. Therefore, the emphasis is to utilize county developed training in the local area and to utilize federal courses (also in the local area) to the maximum. Overall, the trend has been toward increasing training gradually, both in management and technical areas. In FY 1978, some 2,100 employees received training as described. A similar picture exists in Arlington County, Virginia, where recent emphasis has been placed on management type of training.

Federal/State and Local Training Trade-offs - A significant amount of training is provided to state and local employees through the federal training programs. In FY 1978, the agencies reporting to OPM indicated that they provided these employees with 108,781 instances of training, or approximately 13.5 percent of the total training occurrences reported. In addition, federal employees attended some courses operated by state and local governments, reported to be 5,479 instances in 1978. Table 3.3-1 shows that this "trade-off" training has been rapidly increasing since 1975, with federal support increasing more rapidly than the reverse. As shown, training by federal agencies provided to state and local employees increased 45.9 percent from FY 1975 to FY 1978, while the state and local courses taken by federal employees increased by 14.8 percent in the same period.

Various federal agencies provide grants directly to state and local governments for training specific types of employees in special skills. Examples of this type of program in 1977 included the training of 286,412 state and local police

TABLE 3.3-1

FEDERAL, STATE AND LOCAL GOVERNMENT TRAINING FOR EACH OTHER'S EMPLOYEES

Training Provided to Employees of State and Local Governments by Federal Agencies

	1975	1978	Percent Change
Occurrences	74,552	108,781	+45.9

Training Received From State and Local Government by Federal Employees

	1975	1978	Percent Change
Occurrences	4,774	5,479	+14.8

Source: OPM Training Data, 1975/1978.

by the FBI and Law Enforcement Assistance Administration, and 36,570 persons receiving Bureau of Alcohol, Tobacco and Firearms training.[1] The Maritime Administration provides approximately $5 million each year to the six state merchant marine academies to support the training of 2,800 state midshipmen. In addition to direct grants, an authorized use of federal revenue sharing funds by state and local governments is to fund employee training programs. By FY 1978, $86,850 millions were transferred to the state and local governments. Although Treasury believes a significant portion of these funds were used for training programs, even a rough estimate is not now available.

Trends in State and Local Government Employee Training - As mentioned above, and in Table 3.3-1, "trade-off" training between federal and state/local government programs appears to be increasing rapidly.

Indications from state and local contacts support the view that employee training programs in these government entities are also increasing. Illinois and California reports large cost increases. California also reports training hour increases (along with a participation decrease) and an apparent increased emphasis in career training. Interest and concern over competence of state and local government employees has been in evidence since 1970, when the Intergovernmental Personnel Act authorized admission of state and local government employees to federal training programs. This interest and emphasis has been confirmed by the few contacts made to the states and counties referenced.

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[1] Through 1977 this data was separately reported and not included in other OPM data. As of 1978 this training is supposed to be included with other data reported. It is not known if the new procedure has been followed.

In general, it is believed that state and local training programs are small at this time relative to federal programs. However, the trends are clear that this portion of public sector training is growing, perhaps rapidly. Apparently, this growth follows the growth of the state and local governments themselves and an interest to retain and improve the skills of these new governmental employees. Figure 3.3-1 reflects the relative growth of employment in federal civilian, military and state and local government entities since 1950. It shows that state and local government employment is still growing, although more slowly than in the 1960's, and that federal civilian employment and military strengths peaked (in 1969), and are now decreasing slightly. It is possible that training programs for state and local employees are now starting to mature, lagging the actual employment growth. If so, it can be expected that training activities at these levels will continue to grow in the near future, barring any stringent budgetary reductions.

Figure 3.1-1

Federal Civilian, Military, and State/Local Government Employment

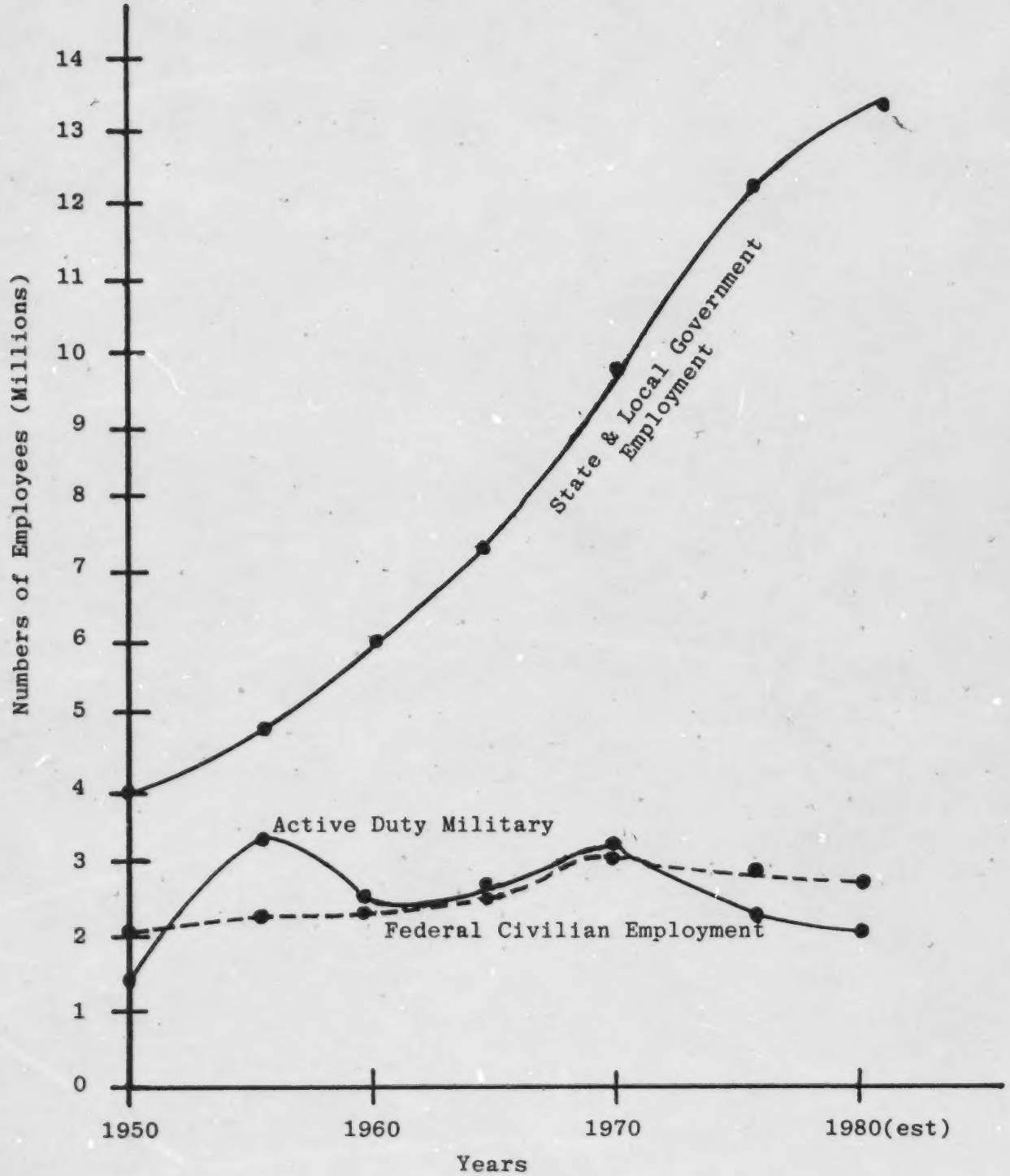
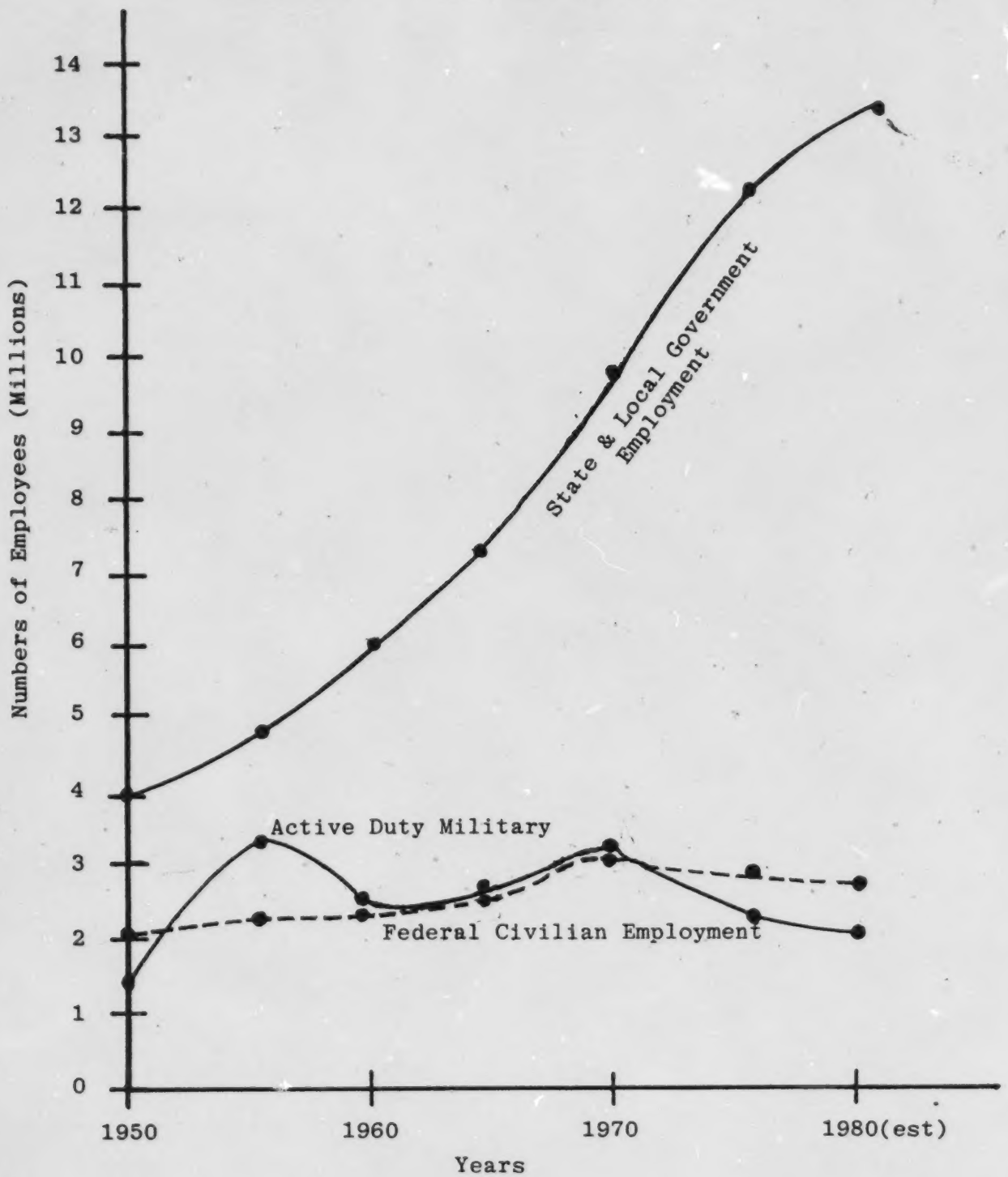


Figure 3.1-1

Federal Civilian, Military, and State/Local Government Employment



APPENDIX A

PUBLIC SECTOR PERSONNEL, FY 1978
("Employees" of Government Entities of U.S.)

FEDERAL CIVILIANS	
Executive Branch (full & part time)	2,138,980[1]
Legislative & Judicial Branches (full & part time)	52,515[1]
DOD Indirect Foreign Nationals	81,048[1]
Less Tennessee Valley Authority (permanent)	-17,262[2]
Totals Reported to OPM	2,255,281
ACTIVE MILITARY	
DOD Military (active)	2,061,443[1,3]
Coast Guard Military (active)	37,746[1]
Totals	2,099,189
RESERVE COMPONENTS	
DOD Military (Reserve)	805,805[4]
Coast Guard Military (Reserve)	11,700[5]
Totals	817,505
INDEPENDENT AGENCIES	
Tennessee Valley Authority (permanent & direct trades & crafts)	47,000[2]
U.S. Postal Service (full & part time)	656,076[1]
Totals	703,076
STATE AND LOCAL GOVERNMENTS	
State Government Employees	3,439,000
Local Government Employees	9,378,000
Totals	12,817,000[6]
PUBLIC SECTOR PERSONNEL NOT LISTED ELSEWHERE	30,000[7]
TOTAL PUBLIC SECTOR PERSONNEL	18,722,051

(Continued)

APPENDIX A (Continued)

PUBLIC SECTOR PERSONNEL, FY 1978
("Employees" of Government Entities of U.S.)

[1]Special Analyses, Budget of the United States, FY 1980, pg. 249. Excludes employees of CIA & NSA.

[2]TVA personnel are included in Federal employment statistics, but are not covered by the Civil Service System and thus do not report training data or personnel actions to OPM. Total direct employment in TVA approximated 47,000 persons in FY 1978, including direct-hire trades and crafts employees.

[3]Includes approximately 60,000 full-time civilian technicians in support of Reserve components who are also members of the Reserve components.

[4]Appendix, Budget of the United States, FY 1980, pg. 272, including 5,137 full-time positions for reserve training support.

[5]Ibid., pg. 695, includes 714 full-time positions for Reserve training support.

[6]Special Analyses, Budget of U.S., FY 1980, pg. 258.

[7]Includes Coast Guard Academy, Merchant Marine Academy and State Merchant Marine Academy cadets. Also special youth job related developmental positions exempt from ceilings.

APPENDIX B

OFFICE OF PERSONNEL MANAGEMENT TRAINING DATA BASE

Purpose of Training

Program or Mission Change
New Technology
New Work Assignment
Improve Performance
Future Staffing Needs
Develop Unavailable Skills
Trade or Craft Apprenticeship
Orientation
Adult Basic Education

Type of Training

Executive/Management
Supervisory
Legal/Medical/Scientific/
Engineering
Administration/Analysis
Speciality/Technical
Clerical
Trades/Crafts
Orientation
Adult Basic Education

Source of Training

Government Internal
Government Inter-Agency
Non-Government-Developed
Non-Government-Off the Shelf
State or Local

Costs of Training

Direct -- Staff Salaries
Direct -- Tuition, Fees, Books
Indirect -- Support Staff
Salaries
Indirect -- Travel & Per Diem

Duration of Training

On Duty Hours/Instance
Off Duty Hours/Instance
Long Term/Short Term

Completion Date of Training

Year
Month
Day

Special Interest Programs

Executive Development
Supervisory Training

APPENDIX C

DEPARTMENT OF DEFENSE TRAINING DATA BASE

CATEGORIES OF TRAINING DATA COLLECTED

Purpose of Training

- Recruit
- One-Station
- Officer Acquisition
- Specialized Skill
- Flight
- Professional Development

Recipient

- Service
- Active Reserve/National Guard
- Officer/Enlisted

Student Loads

- Course Length
- Graduates
- Entrants
- Attrition

Costs

- Direct -- Student Salaries
- Direct -- Staff Salaries
- Indirect -- Operational & Maintenance
- Indirect -- Support Staff Salaries
- Indirect -- Investment (procurement & construction)

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